

What is claimed is

1. A slide-falling preventing apparatus of a mechanical press comprising a meshing member capable of meshing with at least one of teeth of an external tooth gear provided on a rotating and driving system of a slide, the meshing member being provided such that the meshing member can engage with and disengage from the tooth of the external tooth gear from its radial direction, and meshing member inserting means for advancing and retreating the meshing member in the radial direction of the external tooth gear.

2. The slide-falling preventing apparatus of a mechanical press according to claim 1, wherein the external tooth gear is fixed to a drive shaft which drives the slide.

3. The slide-falling preventing apparatus of a mechanical press according to claim 1, wherein the external tooth gear meshes with a gear fixed to a drive shaft which drives the slide.

4. The slide-falling preventing apparatus of a mechanical press according to claim 1, wherein the external tooth gear is mounted on a shaft end of a drive shaft which drives the slide.

5. The slide-falling preventing apparatus of a mechanical press according to claim 1, further comprising a meshing member moving means capable of moving the meshing member in a substantially tangent direction of the external tooth gear and positioning the meshing member.

6. The slide-falling preventing apparatus of a mechanical press according to any one of claims 1 to 5, wherein a meshing portion of the

meshing member is a rack.

7. The slide-falling preventing apparatus of a mechanical press according to any one of claims 1 to 5, wherein the meshing member inserting means includes a meshing member insertion screw and a nut which mesh with each other and either of which being fixed to or supported by the meshing member, and meshing member insertion driving means which rotates and drives either of the meshing member insertion screw or the nut and which can advance and retreat the meshing member in the radial direction of the external tooth gear.

8. The slide-falling preventing apparatus of a mechanical press according to claim 5, wherein the meshing member moving means includes a carrier for supporting the meshing member such that the meshing member can advance and retreat, a meshing member moving screw and a nut which mesh with each other and either of them being fixed to or supported by the carrier, and meshing member moving driving means which rotates and drives either of the meshing member moving screw or the nut, and which can move the carrier together with the meshing member in a tangent direction of the external tooth gear and can position the carrier.